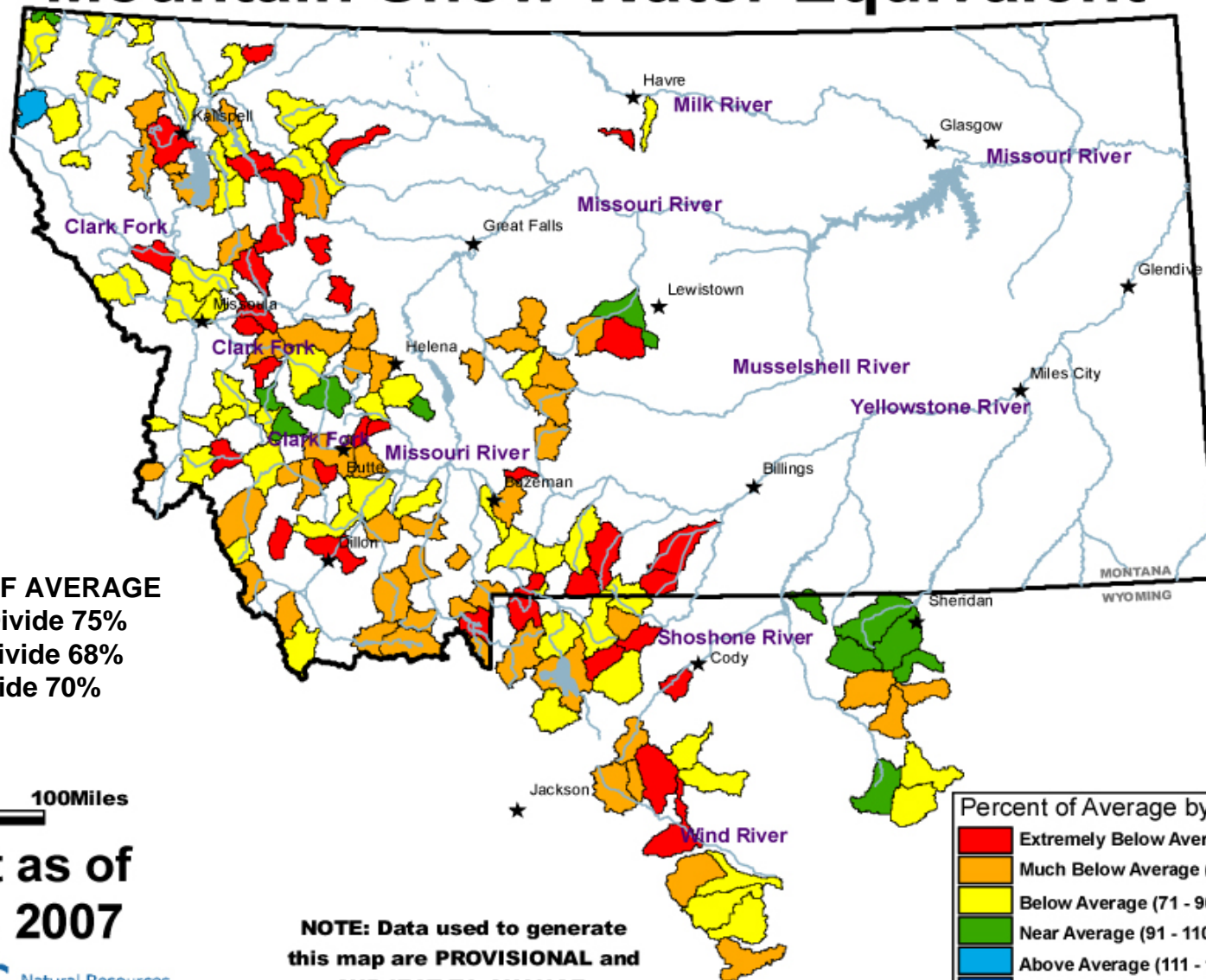


# Natural Resources Conservation Service Snow Survey and Water Supply Report

April 19, 2007



# Mountain Snow Water Equivalent



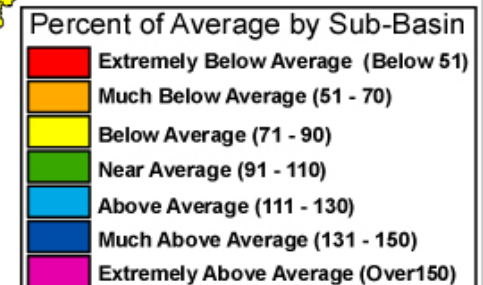
PERCENT OF AVERAGE  
 West of Divide 75%  
 East of Divide 68%  
 State-wide 70%

0 50 100 Miles

Current as of  
 April 1, 2007

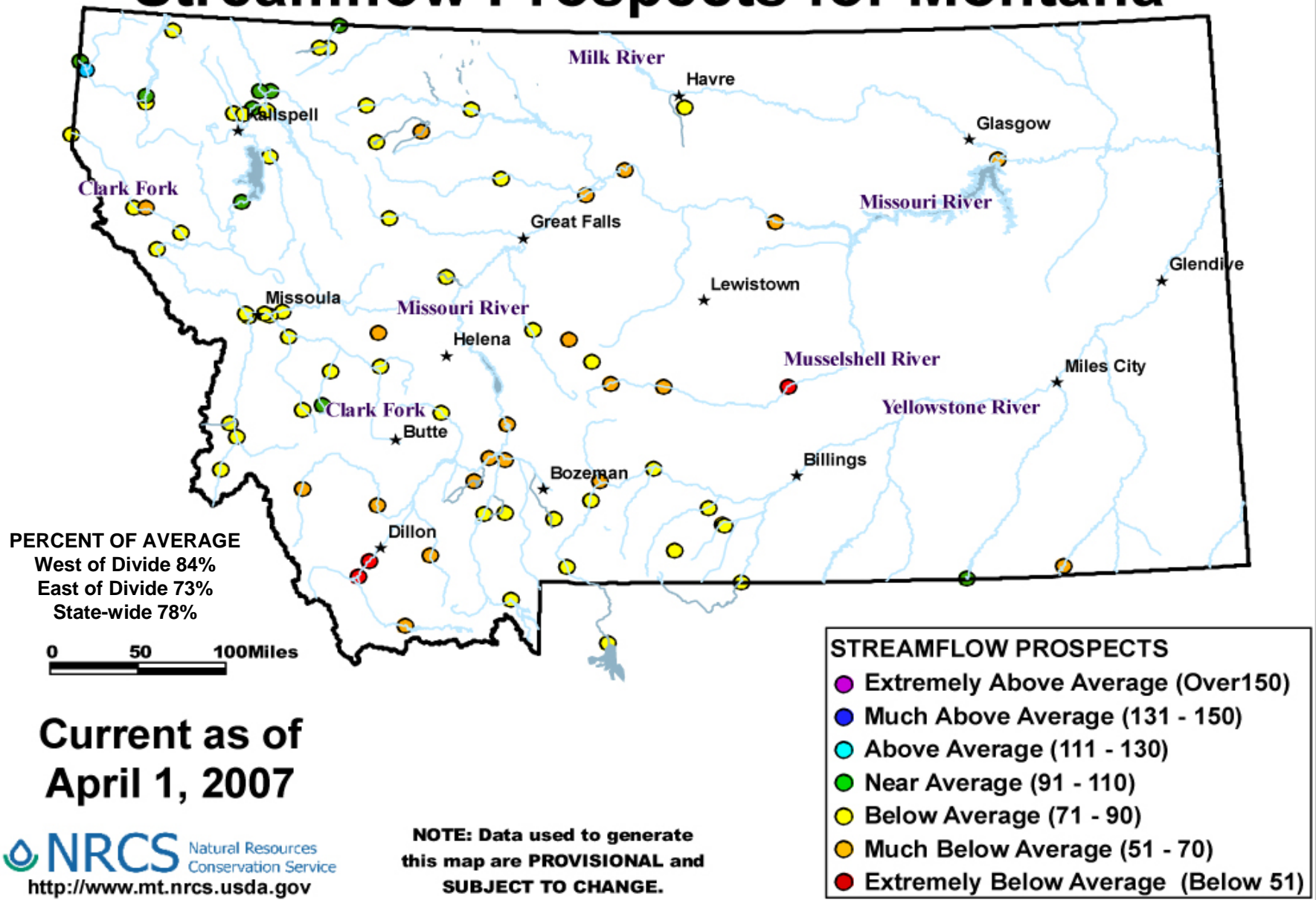
**NRCS** Natural Resources  
 Conservation Service  
<http://www.mt.nrcs.usda.gov>

**NOTE: Data used to generate  
 this map are PROVISIONAL and  
 SUBJECT TO CHANGE.**





# Streamflow Prospects for Montana



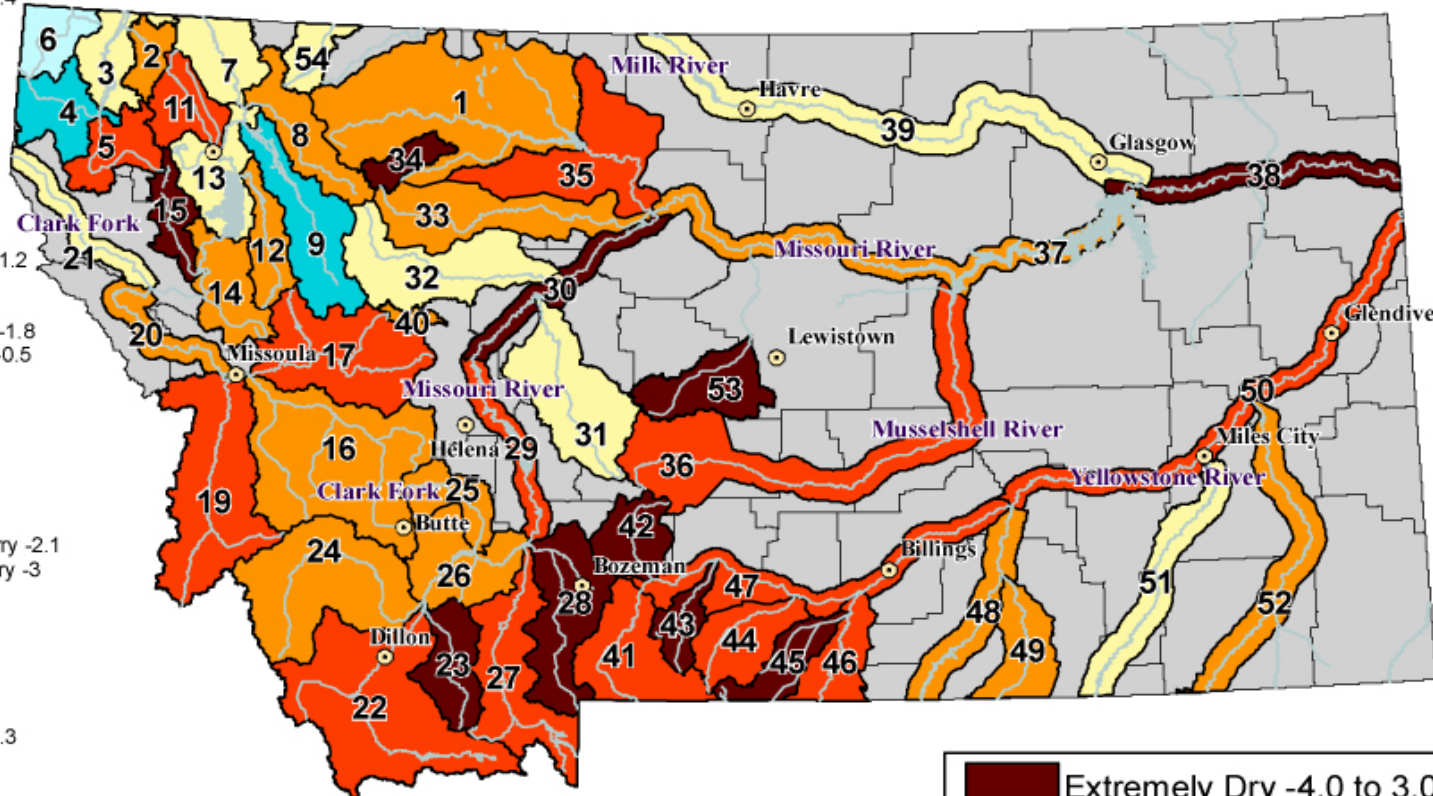
# RIVER INDEX & SWSI VALUES

- 1 Marias above Tiber Reservoir -1.6
- 2 Tobacco -1.2
- 3 Kootenai Ft. Steele to Libby Dam 0.6
- 4 Kootenai below Libby Dam 2.4
- 5 Fisher -2
- 6 Yaak 1.2
- 7 North FK. Flathead 0.5
- 8 Middle FK. Flathead -1.3
- 9 South FK. Flathead 2.4
- 11 Stillwater/Whitefish -2
- 12 Swan -1.6
- 13 Flathead at Polson 0.2
- 14 Mission Valley -1.9
- 15 Little Bitterroot -3
- 16 Clark Fork above Milltown -1.2
- 17 Blackfoot -2.1
- 19 Bitterroot -2.1
- 20 Clark Fork below Bitterroot -1.8
- 21 Clark Fork below Flathead -0.5
- 22 Beaverhead -2.2
- 23 Ruby -4
- 24 Big Hole -1.7
- 25 Boulder (Jefferson) -1.9
- 26 Jefferson -1.6
- 27 Madison -3.2
- 28 Gallatin -2.2
- 29 Missouri above Canyon Ferry -2.1
- 30 Missouri below Canyon Ferry -3
- 31 Smith 0.2
- 32 Sun -0.6
- 33 Teton -1.4
- 34 Birch/Dupuyer Creeks -3.3
- 35 Marias -2.4
- 36 Musselshell -2.4
- 37 Missouri above Fort Peck -1.3
- 38 Missouri below Fort Peck -4
- 39 Milk -0.5
- 40 Dearborn near Craig -1.7
- 41 Yellowstone above Livingston -2.4
- 42 Shields -3.2
- 43 Boulder (Yellowstone) -3.3
- 44 Stillwater -2.3
- 45 Rock/Red Lodge Creeks -3.4
- 46 Clarks Fork -2.4
- 47 Yellowstone above Bighorn -2.5
- 48 Bighorn below Bighorn Lake -1.9
- 49 Little Bighorn -1.5
- 50 Yellowstone below Bighorn -2.2
- 51 Tongue 0.2
- 52 Powder -1.7
- 53 Upper Judith River -3.1
- 54 Saint Mary River -0.9

# Surface Water Supply Index (SWSI) Values

UNITED STATES DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

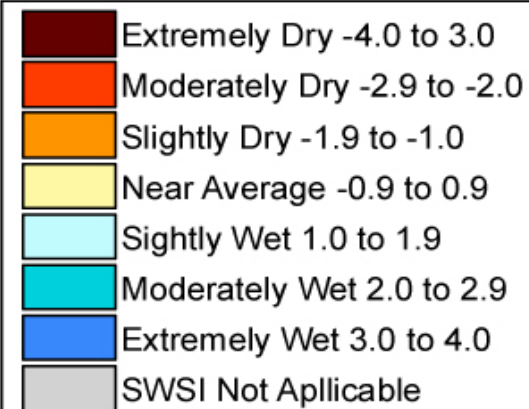


Current as of  
April 1, 2007

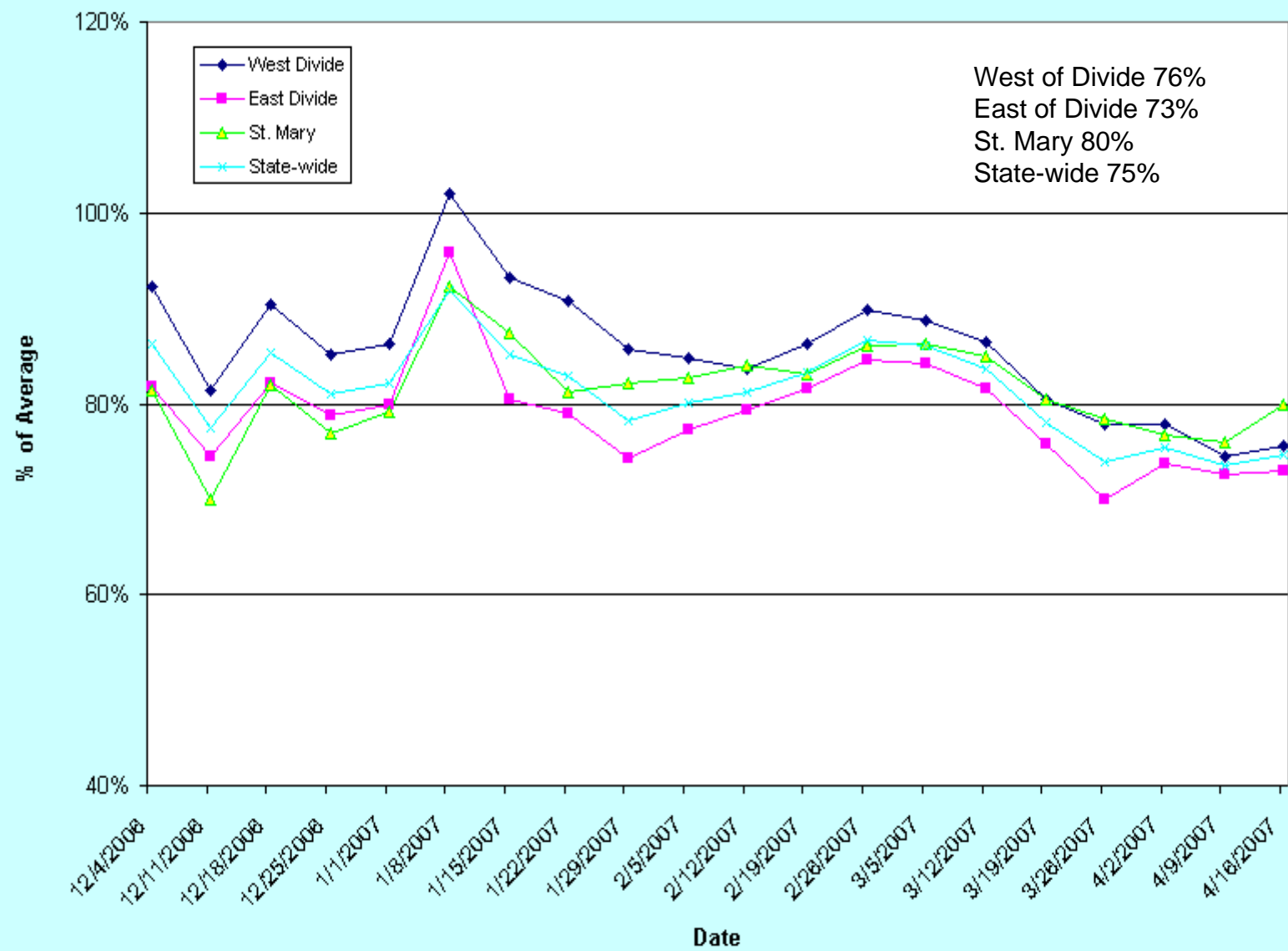
**NOTE: Data used to generate  
this map are PROVISIONAL and  
SUBJECT TO CHANGE.**

**NRCS** Natural Resources  
Conservation Service

<http://www.mt.nrcs.usda.gov>



# 2007 SNOW WATER EQUIVALENT (SNOTEL DATA ONLY)

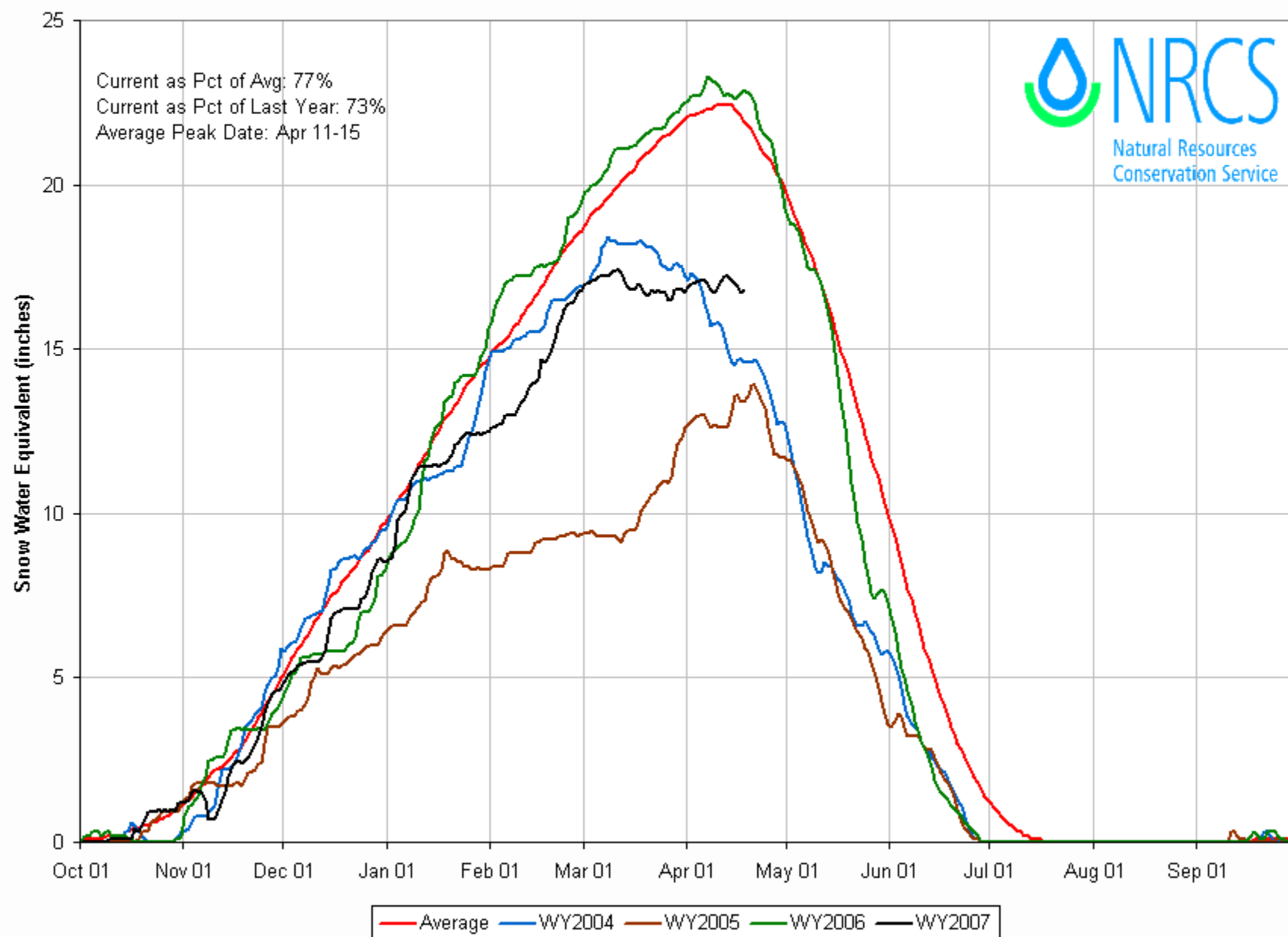


# SNOTEL DATA AS OF April 16, 2007

Basin	This Year % of ave.	This Week versus Last Week	Last Year % of ave.	This Year as % of Last Year	Current swe To Peak	Average swe To Peak
Kootenai	86%	2%	108%	80%	84%	99%
Flathead	77%	3%	101%	76%	74%	99%
Upper Clark Fork	76%	2%	101%	75%	73%	98%
Bitterroot	67%	-1%	111%	60%	65%	100%
Lower Clark Fork	72%	0%	100%	72%	71%	100%
Jefferson	68%	1%	108%	63%	66%	97%
Madison	68%	-1%	112%	61%	70%	98%
Gallatin	73%	2%	101%	72%	71%	96%
Missouri Headwaters	68%	0%	108%	63%	68%	97%
Headwaters Mainstem	81%	2%	109%	74%	79%	98%
Smith,Judith,Musselshell	79%	2%	106%	75%	76%	99%
Sun,Teton,Marias	76%	1%	93%	82%	75%	100%
Missouri Mainstem	78%	2%	100%	78%	76%	99%
St. Mary	80%	4%	94%	86%	73%	99%
Upper Yellowstone	70%	0%	91%	77%	67%	97%
Lower Yellowstone	76%	-2%	69%	110%	73%	96%
State-wide	75%	1%	101%	74%	73%	98%

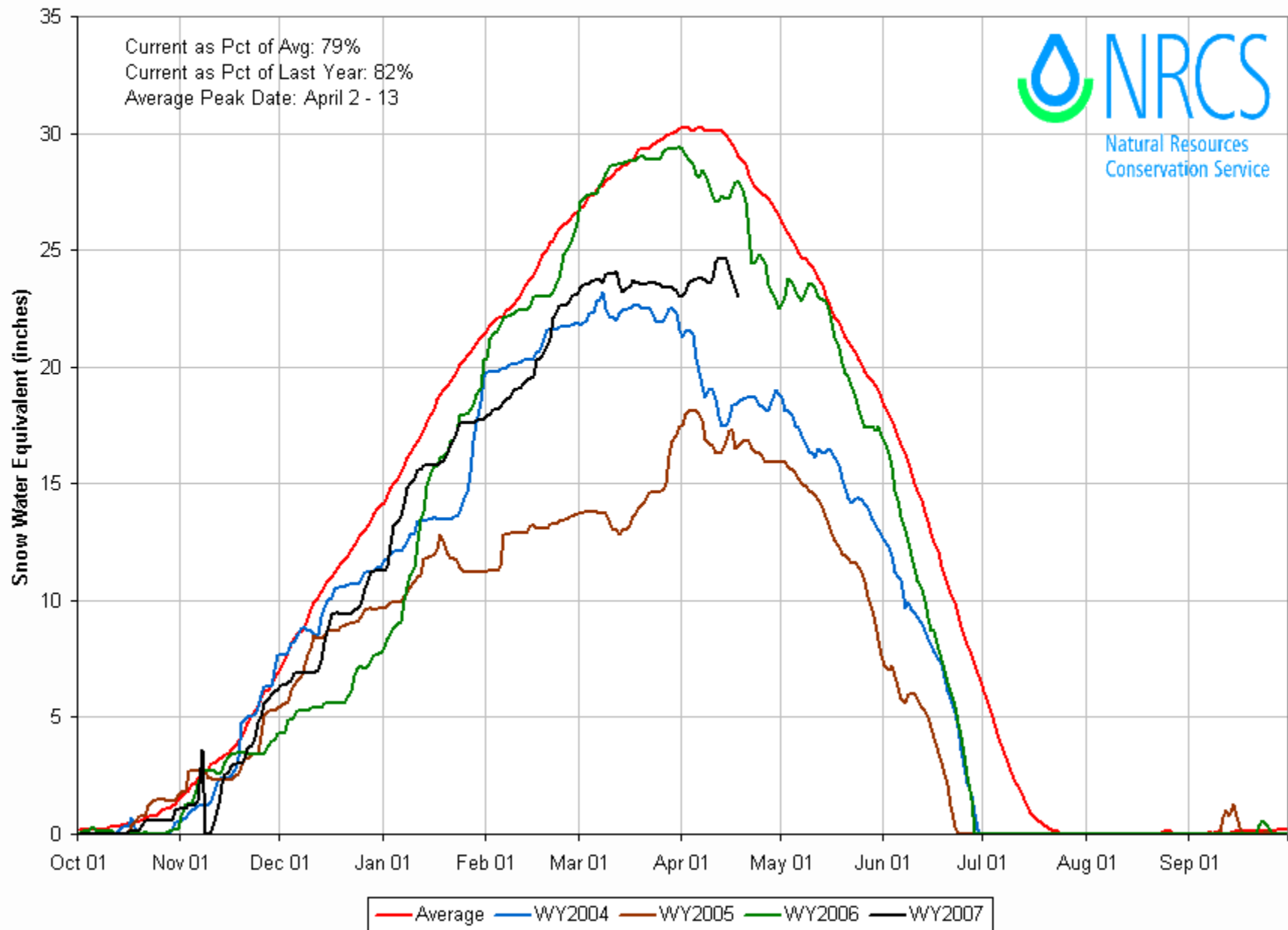
## Columbia Basin Time Series Snowpack Summary

*Based on Provisional SNOTEL data as of Apr 18, 2007*



## St. Mary Time Series Snowpack Summary

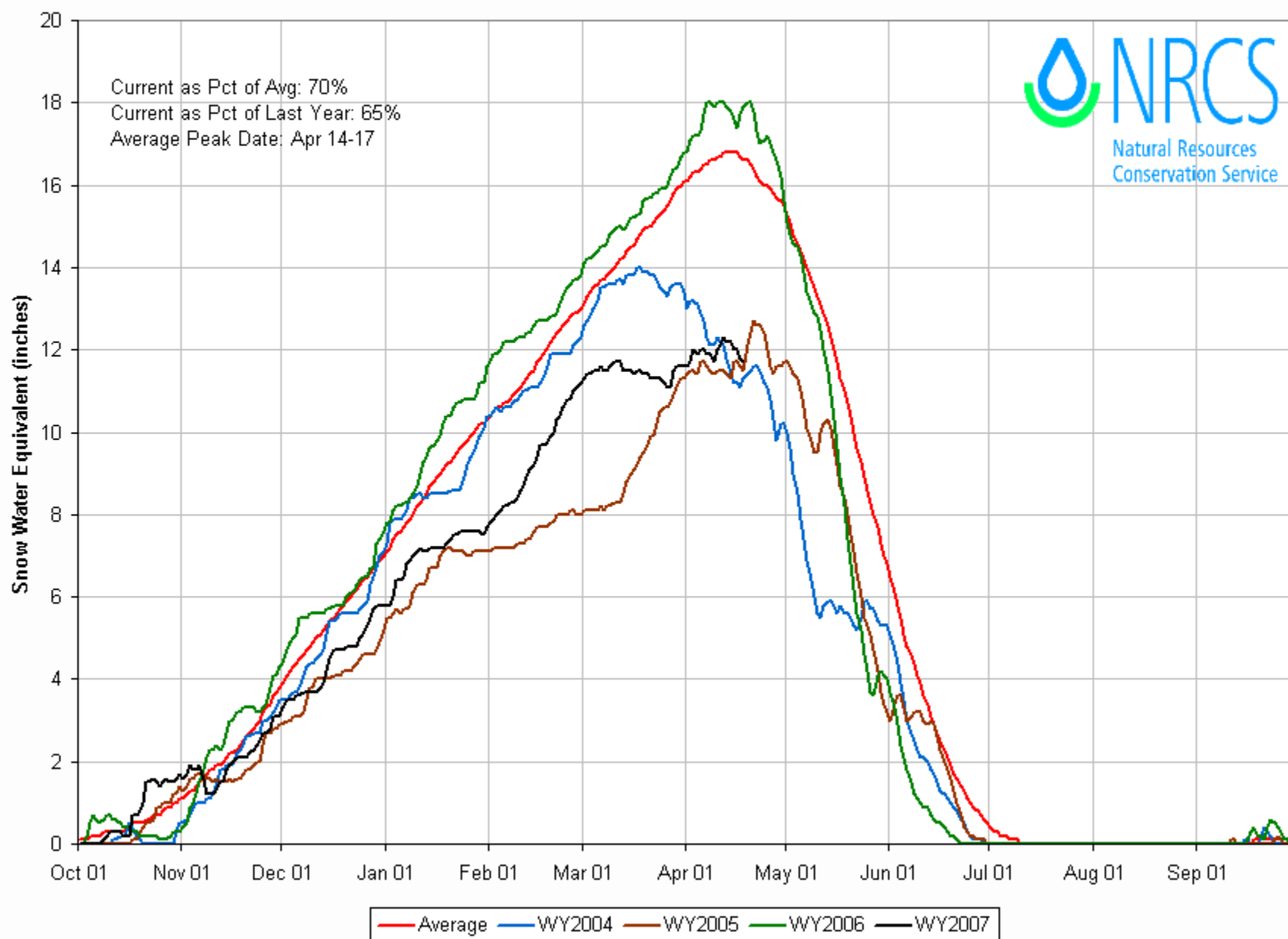
*Based on Provisional SNOTEL data as of Apr 18, 2007*





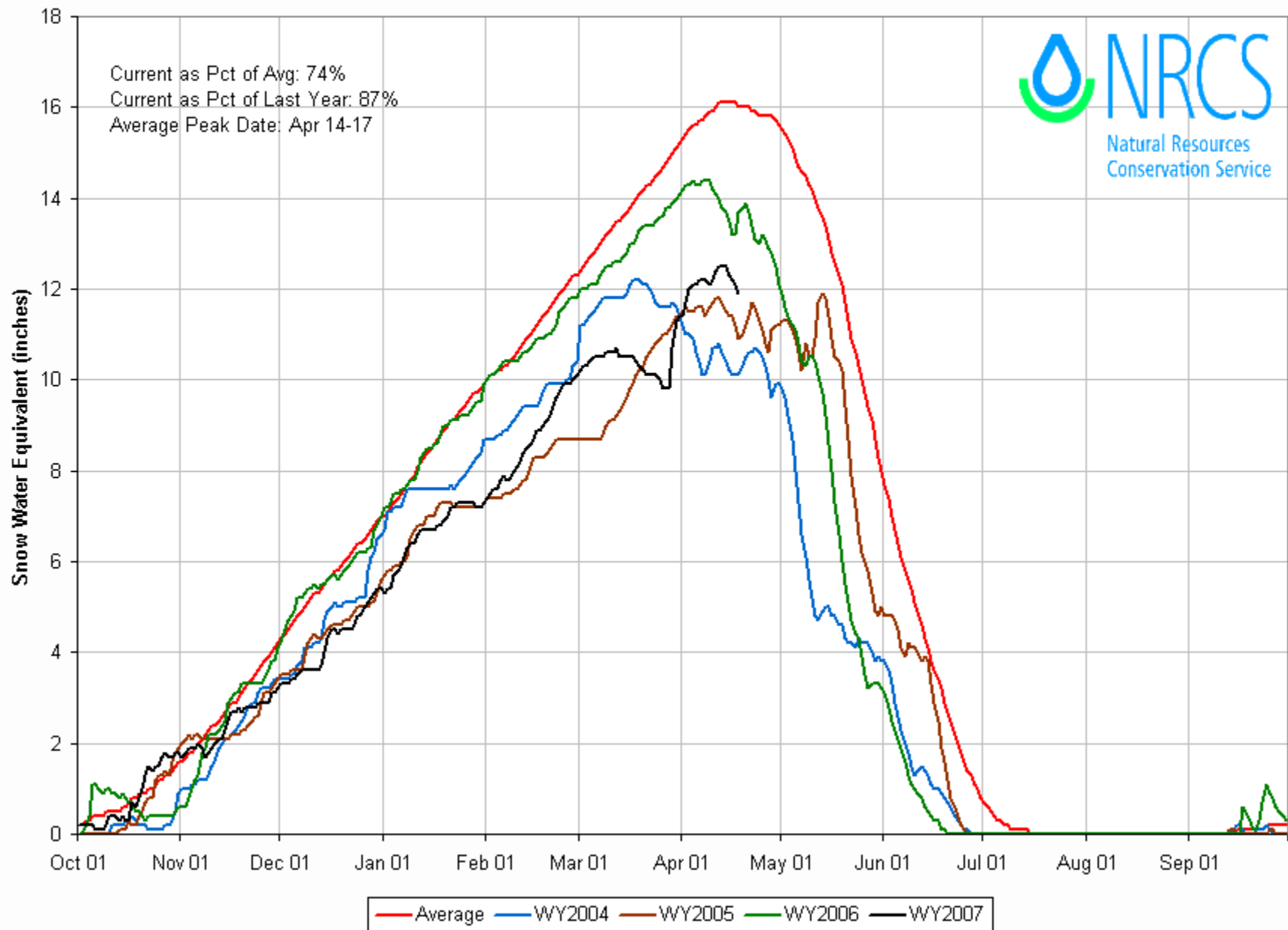
## Missouri Basin Time Series Snowpack Summary

*Based on Provisional SNOTEL data as of Apr 18, 2007*



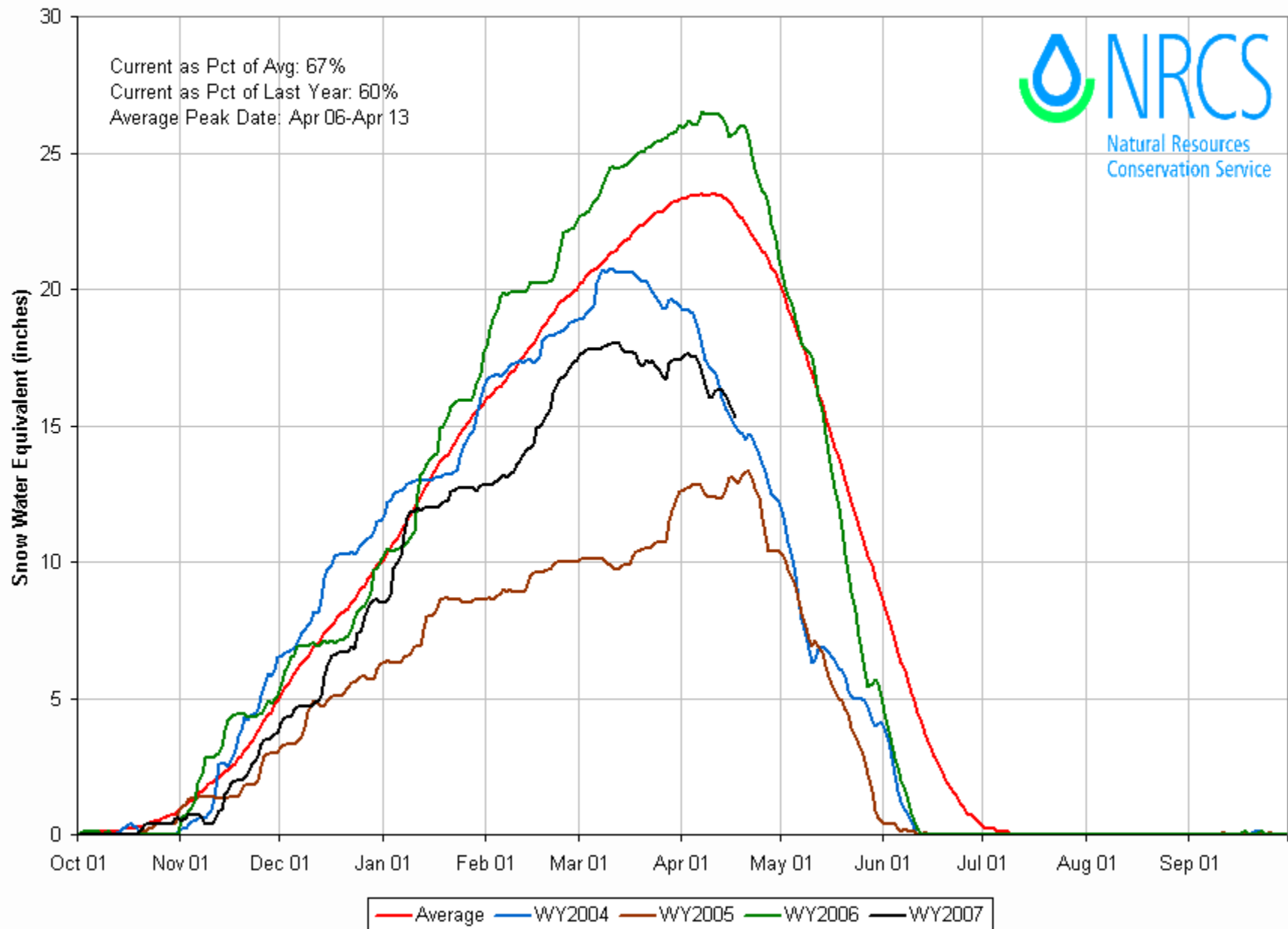
## Yellowstone Basin Time Series Snowpack Summary

*Based on Provisional SNOTEL data as of Apr 18, 2007*



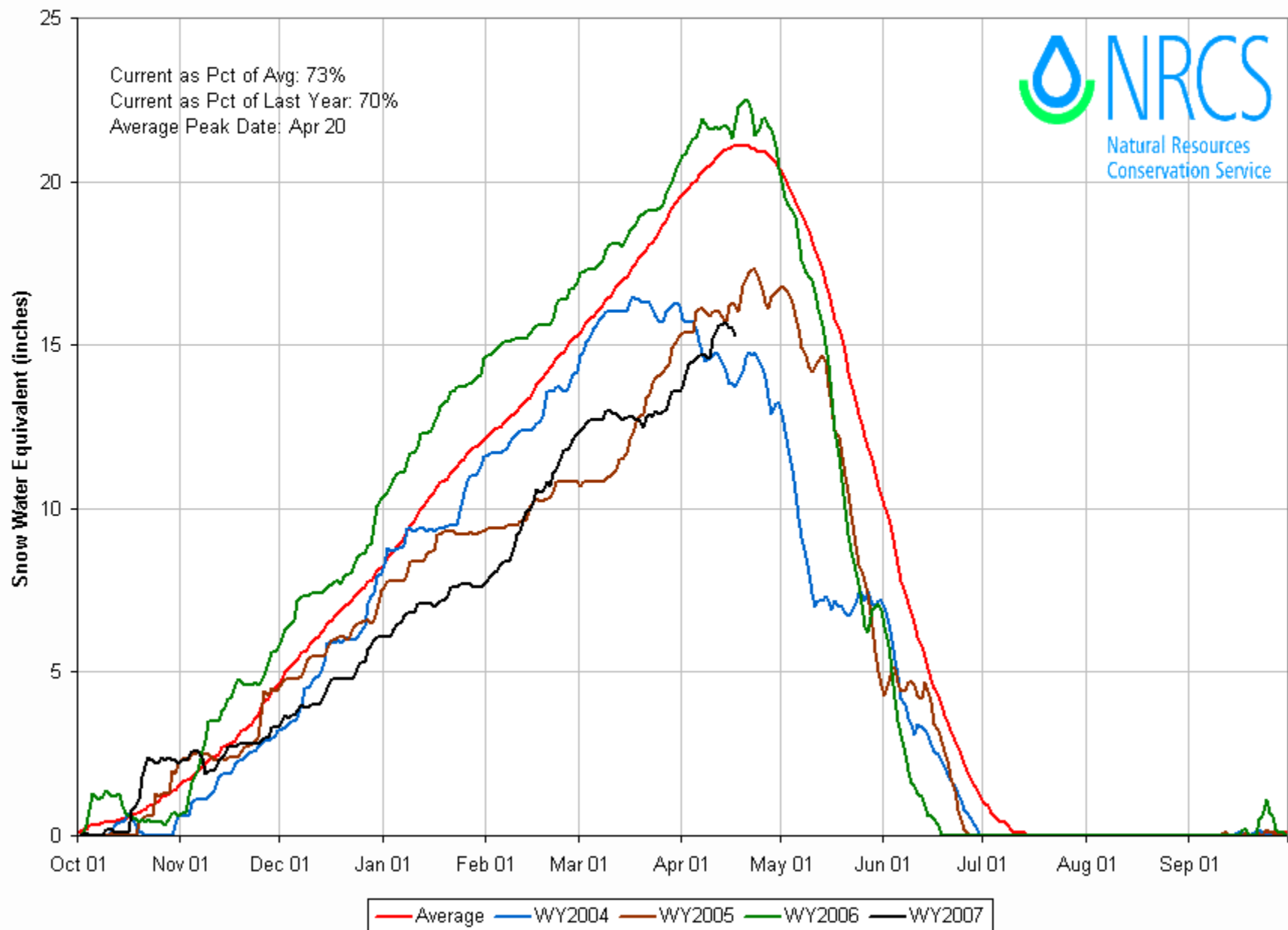
## Bitterroot Time Series Snowpack Summary

*Based on Provisional SNOTEL data as of Apr 17, 2007*



## Gallatin Time Series Snowpack Summary

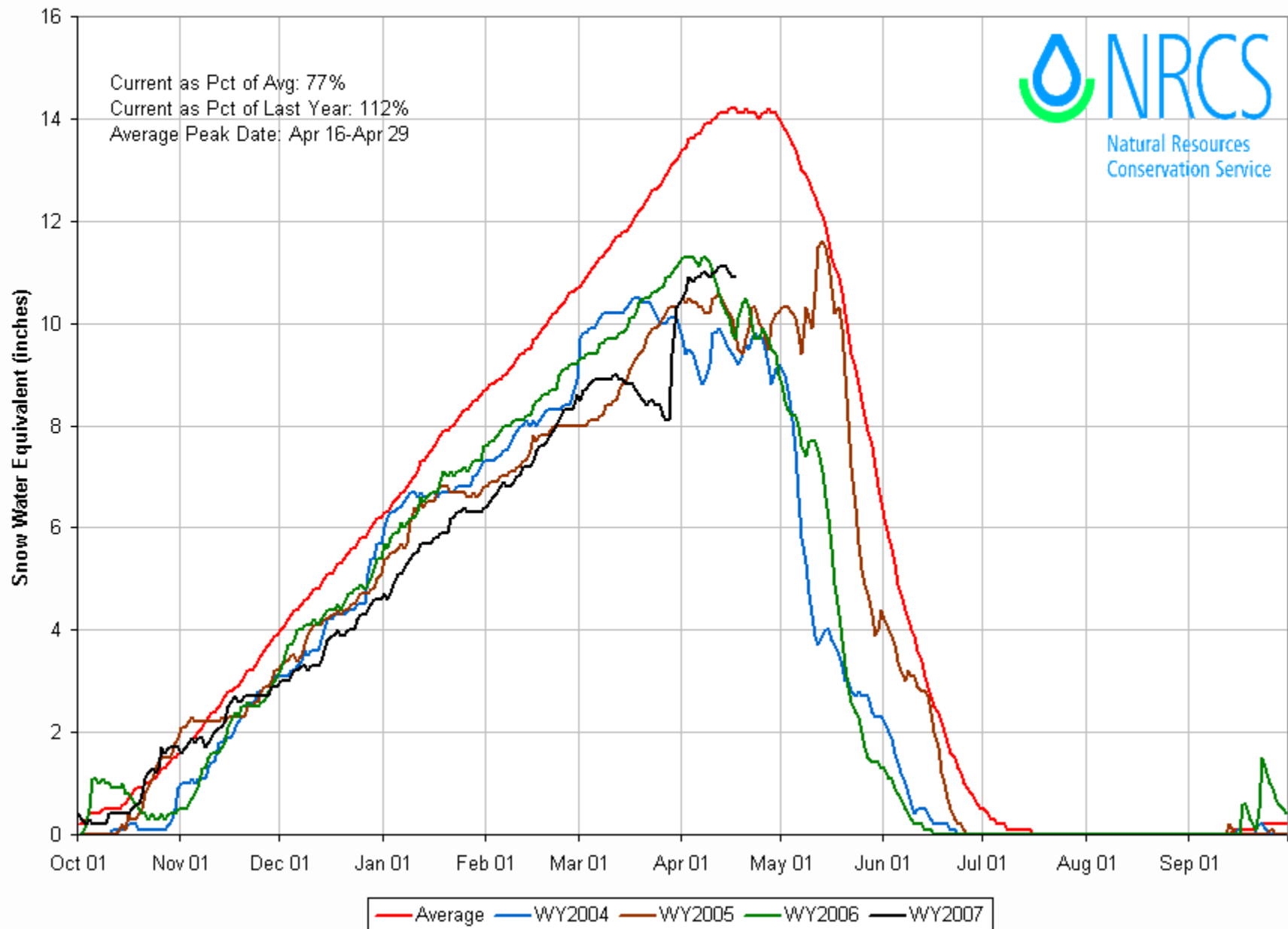
*Based on Provisional SNOTEL data as of Apr 17, 2007*





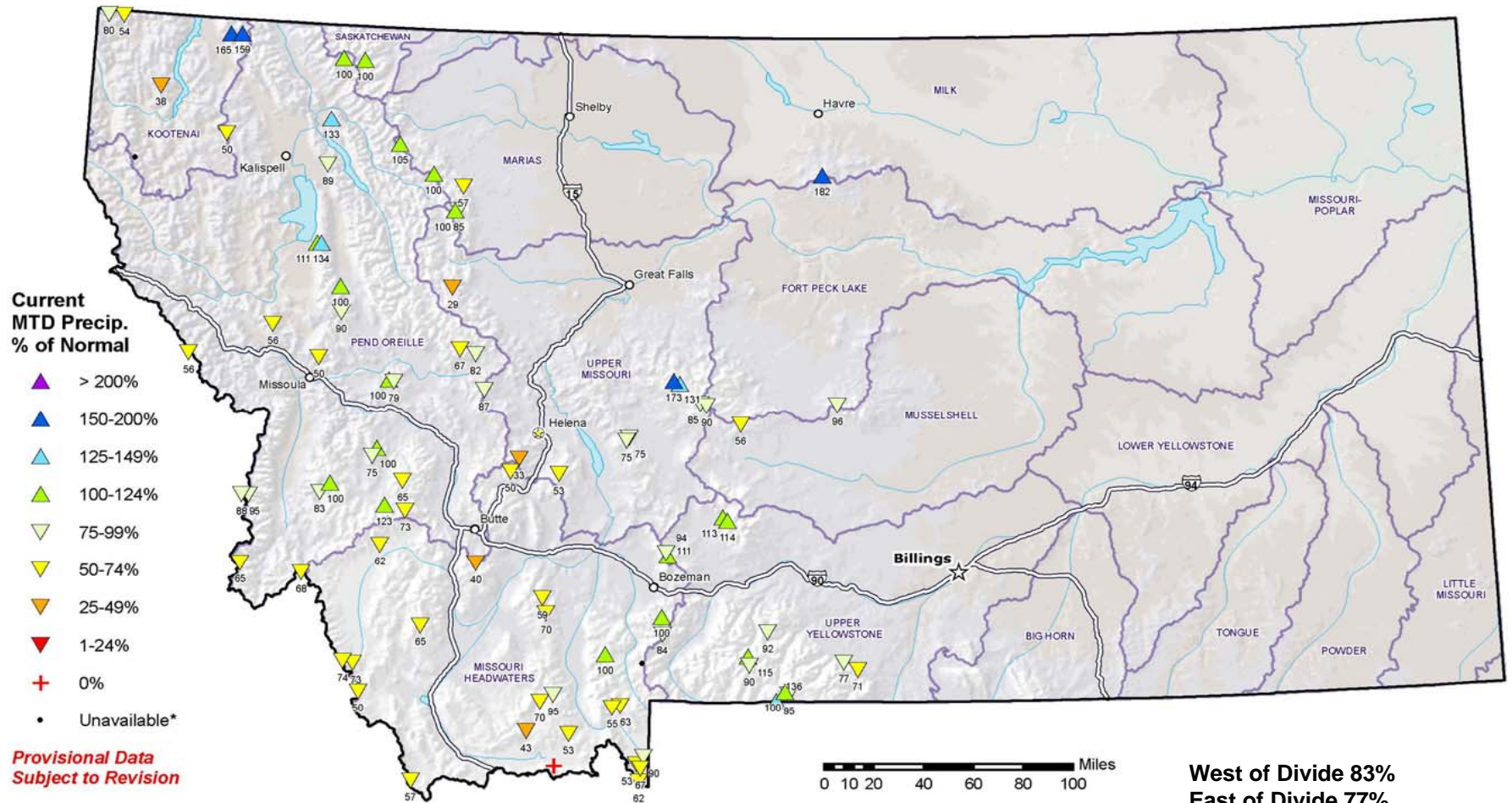
## Lower Yellowstone Time Series Snowpack Summary

*Based on Provisional SNOTEL data as of Apr 17, 2007*



# Montana SNOTEL Month to Date (MTD) Precipitation % of Normal

Apr 18, 2007



Prepared by the  
 USDA/NRCS National Water and Climate Center  
 Portland, Oregon  
<http://www.wcc.nrcs.usda.gov/gis/>

\* Data unavailable at time of posting or unavailable long-term normal.

# SUMMARY

- Snowpack, using April 16 SNOTEL data, west of the divide was 76% of average and 73% of last year; east of the divide was 73% of average and 77% of last year; and St. Mary was 80% of average and 86% of last year.
- Current April mountain precipitation is generally near average to below average.
- Assuming near average rain April-July, spring and summer streamflows west of the divide are forecast to be below average and east of the divide are forecast to be below to well below average.



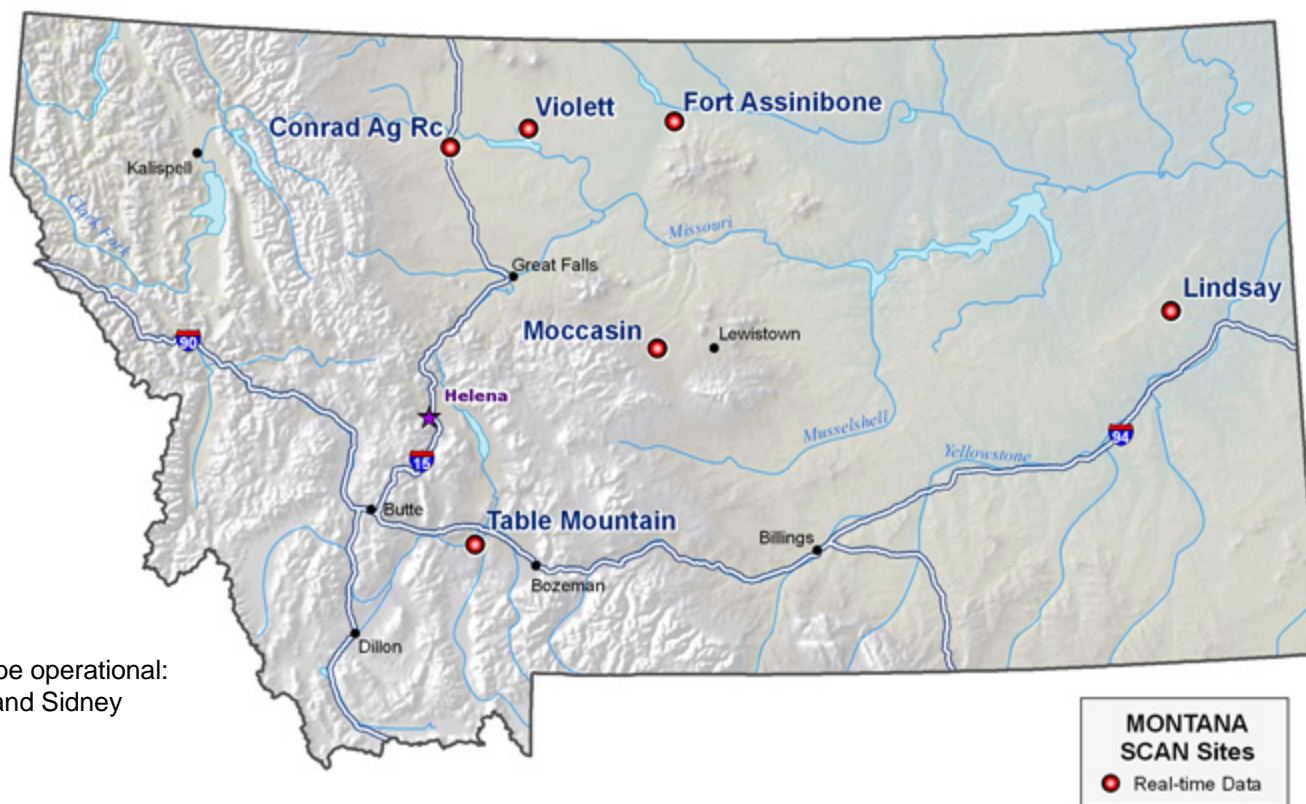


MONTANA NRCS SNOW SURVEY AND  
WATER SUPPLY WEB PAGE

<http://www.mt.nrcs.usda.gov/snow/>



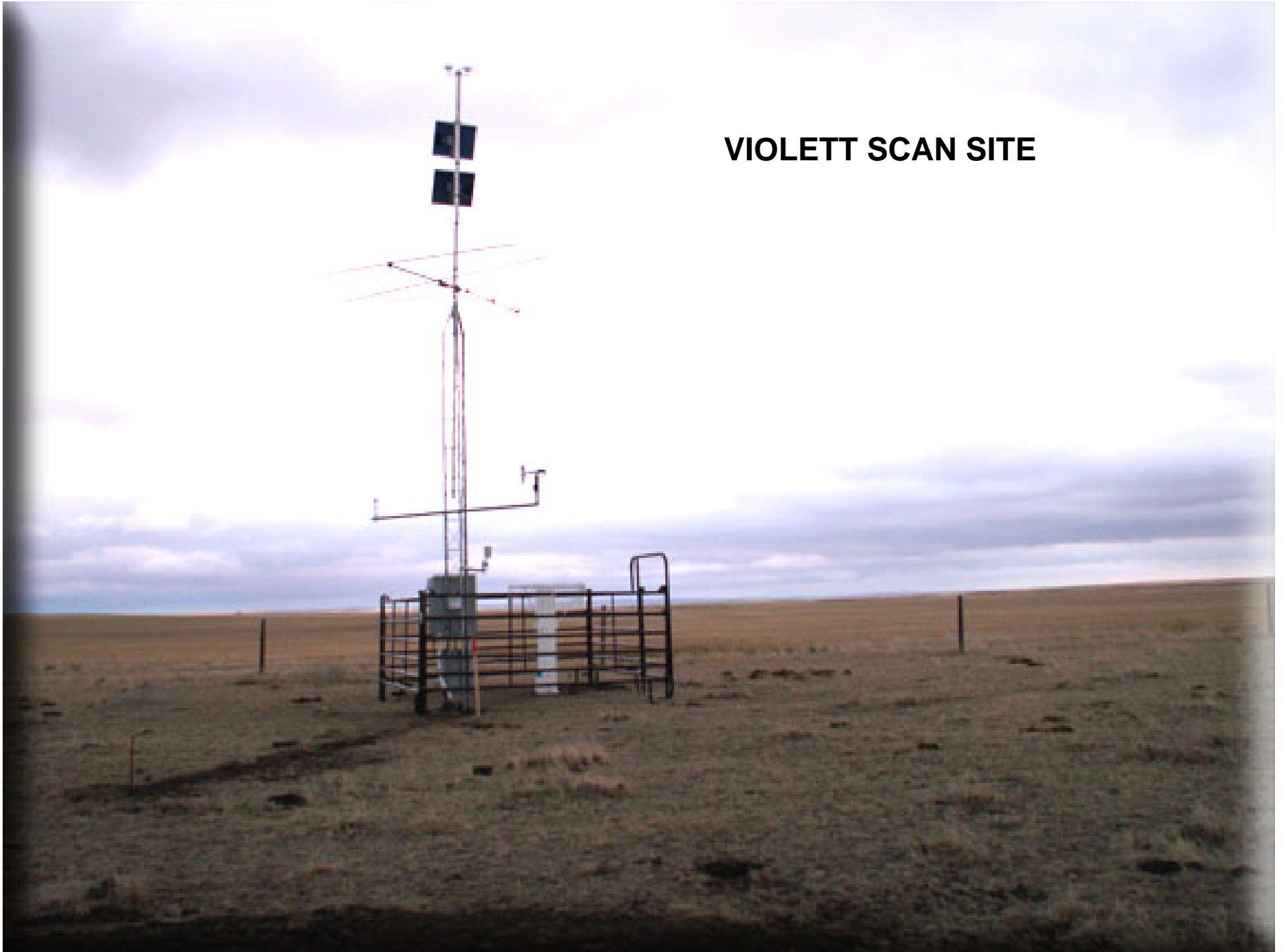
# MONTANA SOIL CLIMATE ANALYSIS NETWORK (SCAN)



Web address for site data:  
<http://www.wcc.nrcs.usda.gov/scan/Montana/montana.html>

For more information on the SCAN project contact:  
Chuck Gordon, State Soil Scientist  
Email address [charles.gordon@mt.usda.gov](mailto:charles.gordon@mt.usda.gov)  
Phone 406.587.6818

## VIOLETT SCAN SITE



# VIOLETT Soil Moisture Data Report

Date	Time (Local Std.)	Soil Moist (wvf in %) ( 2 inches )	Soil Temp (deg C)	Soil Moist (wvf in %) ( 4 inches )	Soil Temp (deg C)	Soil Moist (wvf in %) ( 8 inches )	Soil Temp (deg C)	Soil Moist (wvf in %) ( 20 inches )	Soil Temp (deg C)	Soil Moist (wvf in %) ( 40 inches )	Soil Temp (deg C)
4/17/2007	0	27.5	11.7	34	11.9	38	11.1	26.5	8.2	30.4	6.8
4/17/2007	100	27.4	11.1	33.9	11.6	38	11	26.5	8.3	30.4	6.8
4/17/2007	200	27.1	10.4	33.9	11.3	38.2	10.8	26.5	8.3	30.4	6.8
4/17/2007	300	27.3	9.6	33.7	10.9	38	10.6	26.5	8.3	30.4	6.8
4/17/2007	400	27	8.8	33.7	10.5	38	10.5	26.2	8.3	30.4	6.8
4/17/2007	500	26.8	8.2	33.5	10.1	38	10.2	26.2	8.4	29.8	6.8
4/17/2007	600	26.6	7.9	33.6	9.7	38	10	26.5	8.4	29.8	6.8
4/17/2007	700	26.6	8.4	33.5	9.4	37.9	9.8	26.5	8.4	29.8	6.8
4/17/2007	800	27.1	9.4	33.3	9.3	37.8	9.6	26.4	8.4	29.8	6.9
4/17/2007	900	27.1	10.6	33.4	9.5	37.8	9.5	26.4	8.5	29.8	6.9
4/17/2007	1000	27.5	11.8	33.5	9.8	37.8	9.5	26.4	8.5	29.8	6.9

**\*\*Provisional data, subject to revision\*\***

wvf = Water Volume Fraction

Temperature is in Degrees Centigrade

\*-99.9 indicates invalid data received.

\*M = Missing data for the selected day.

\*A blank field indicates a missing sensor or problems with the sensor.

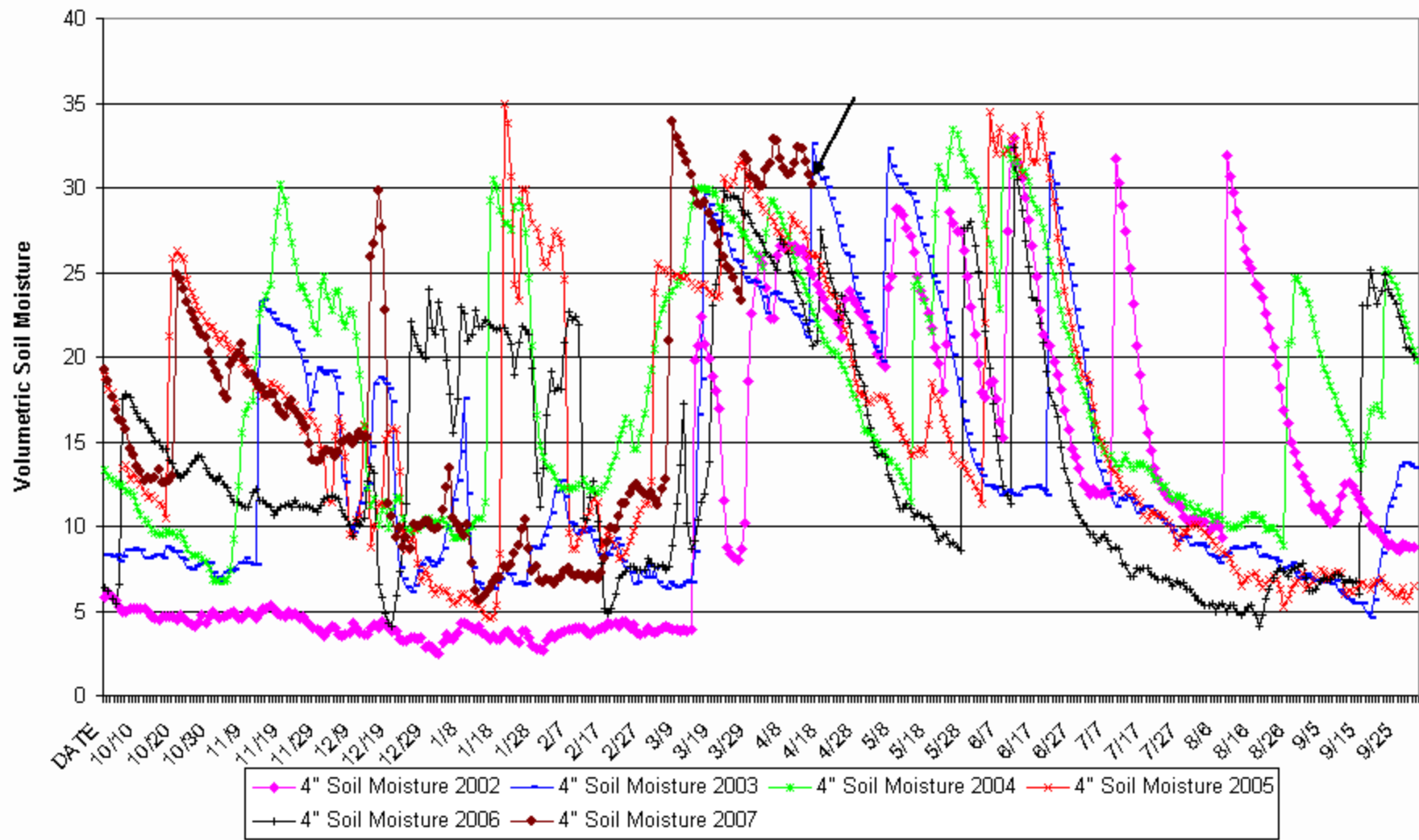
**Climate sensors include:** air temperature, solar radiation  
wind speed & direction, relative humidity, dew point  
temperature, and barometric pressure.

## Fort Assiniboine SCAN Site

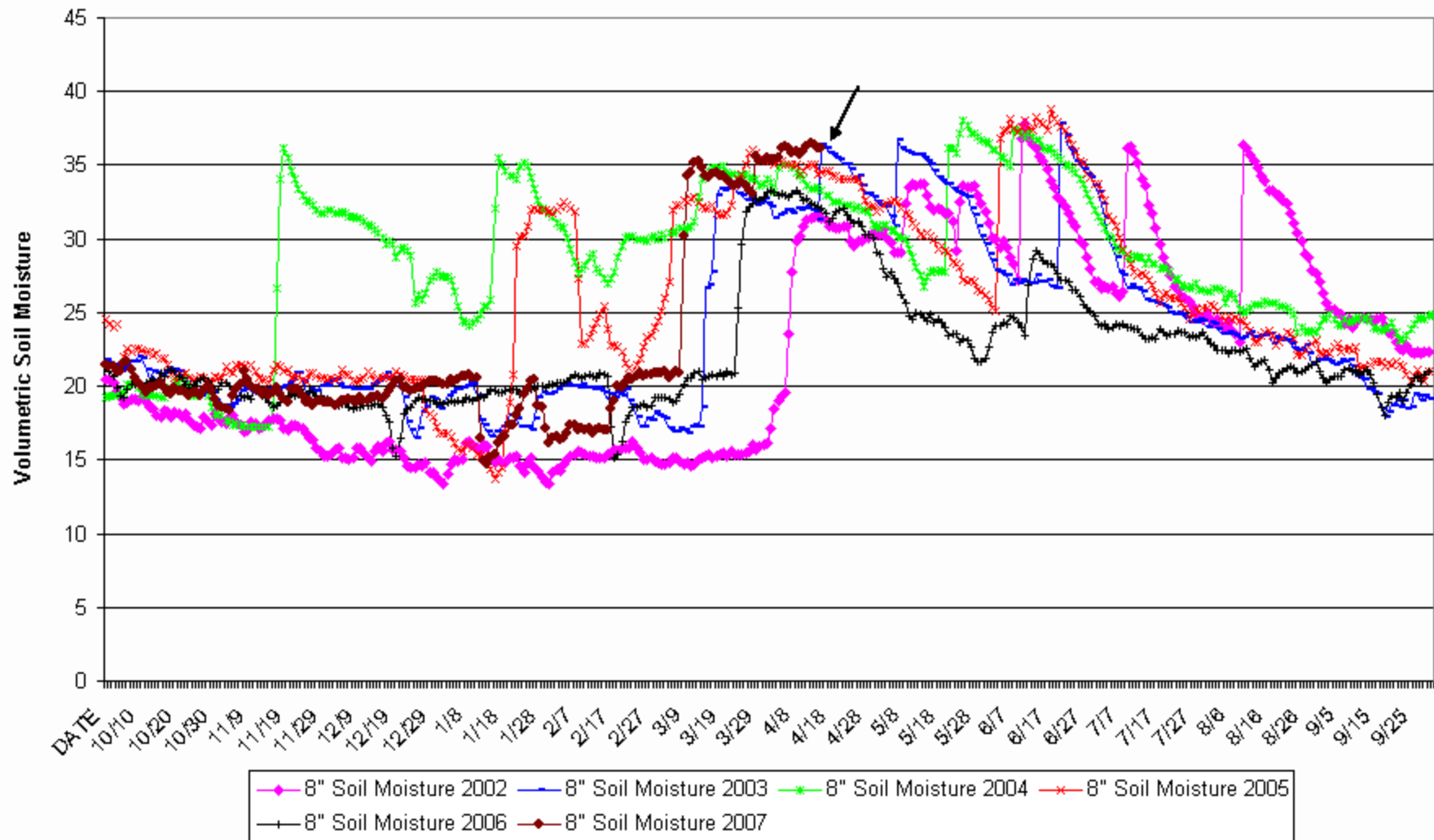




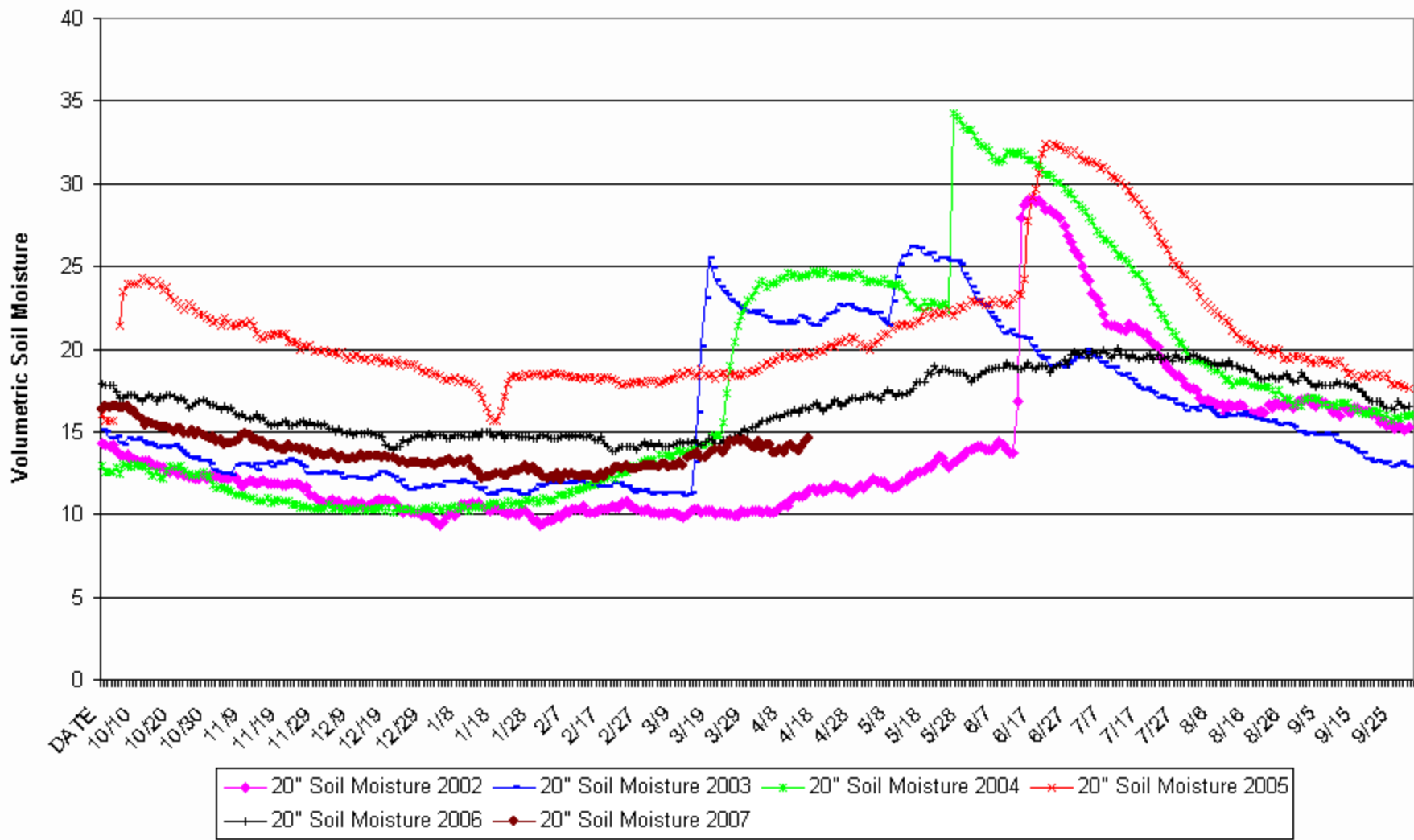
Fort Assiniboine, MT  
4" Soil Moisture, Water Year 2002, 2003, 2004, 2005, 2006, 2007  
Preliminary Data Subject to Change



Fort Assiniboine, MT  
8" Soil Moisture, Water Year 2002, 2003, 2004, 2005, 2006, 2007  
Preliminary Data Subject to Change



Fort Assiniboine, MT  
 20" Soil Moisture, Water Year 2002, 2003, 2004, 2005, 2006, 2007  
 Preliminary Data Subject to Change



SCAN web page:  
<http://www.wcc.nrcs.usda.gov/scan/Montana/montana.html>

